What is claimed is:

1. A carbonyl reductase comprising physicochemical properties as shown in (1) and (2),

(1) action

reduces ketones to produce an optically active alcohol, by utilizing reduced β-nicotinamide adenine dinucleotide phosphate as a coenzyme,

(2) substrate specificity

(a) utilizes reduced β-nicotinamide adenine dinucleotide phosphate as a coenzyme in the reduction reaction,

(b) reduces 3,4-dimethoxyphenylacetone to produce (S)-1-(3,4-dimethoxyphenyl)-2-propanol,

(c) comprises the activity of reducing 3,4-dimethoxyphenylacetone, but lacks the activity of oxidizing (S)-1-(3,4-dimethoxyphenyl)-2-propanol.

2. The carbonyl reductase of claim 1, which additionally comprises physicochemical properties of (3) and (4),

(3) optimal pH

pH 5.5 to 6.5,

(4) molecular weight

a molecular weight, determined via sodium dodecylsulfate-polyacrylamide gel electrophoresis (SDS-PAGE) and gel filtration, of about 38,000.

3. The carbonyl reductase of claim 1, which is produced by a microorganism belonging to the genus *Torulaspora*.

4. The carbonyl reductase of claim 3, wherein the microorganism belonging to the genus *Torulaspora* is *Torulaspora delbrueckii*.

5. A polynucleotide of the following (a) or (b),

(a) a polynucleotide comprising the nucleotide sequence of SEQ ID NO: 1

(b) a polynucleotide encoding a protein comprising the amino

acid sequence of SEQ ID NO: 2.

6. A polynucleotide encoding a protein comprising the physicochemical properties of (1) and (2) in claim 1, wherein said polynucleotide is any one of the following (c) to (e),

(c) a polynucleotide encoding a protein comprising an amino acid sequence in which one or more amino acid(s) in the amino acid sequence of SEQ ID NO: 2 has been substituted, deleted, inserted, and/or added,

(d) a polynucleotide which hybridizes with a DNA comprising the nucleotide sequence of SEQ ID NO: 1 under stringent conditions,

(e) a polynucleotide encoding an amino acid sequence comprising 70% or more homology to the amino acid sequence of SEQ ID NO: 2.

7. A protein encoded by the polynucleotide of claim 5 or 6.

8. A recombinant vector, which comprises the polynucleotide of claim 5 or 6.

9. The recombinant vector of claim 8, which further comprises a dehydrogenase gene for regenerating a coenzyme.

10. A transformant, which is transformed with the polynucleotide of claim 5 or 6, or the recombinant vector of claim 8 or 9.

11. A carbonyl reducing agent comprising a protein comprising the physiochemical properties of (1) and (2) in claim 1, and comprising the function of producing at least 80%ee or more (S)-1-(3,4-dimethoxyphenyl)-2-propanol, wherein said protein is encoded by a polynucleotide according to any one of the following (a) to (c),

(a) a polynucleotide encoding a protein comprising an amino acid sequence in which one or more amino acid(s) in the amino acid sequence of SEQ ID NO: 17, 21, or 25 has been substituted, deleted, inserted, and/or added,

(b) a polynucleotide which hybridizes with a polynucleotide comprising a nucleotide sequence of SEQ ID NO: 16, 20, or 24 under

stringent conditions,

(c) a polynucleotide encoding an amino acid sequence comprising 70% or more homology to the amino acid sequence of SEQ ID NO: 17, 21, or 25.

12. A method for producing an optically active alcohol, which comprises reacting a carbonyl reductase of any one of claims 1 to 4, the protein of claim 7, a microorganism producing the enzyme or the protein, the treated microorganism, the transformant of claim 10, or the carbonyl reducing agent of claim 11 with a ketone.

13. A method for producing (S)-1-(3,4-dimethoxyphenyl)-2-propanol, which comprises reacting a carbonyl reductase of any one of claims 1 to 4, the protein of claim 7, a microorganism producing the enzyme or the protein, the treated microorganism, the transformant of claim 10, or the carbonyl reducing agent of claim 11 with 3,4-dimethoxyphenylacetone.